

## AMENDMENTS TO THE CLAIMS

Replace the claims with the following rewritten listing:

1. (Currently Amended) An intervertebral disc prosthesis comprising two rigid half-shells in the form of cups or plates ~~(7, 10)~~ which are each intended to be fixed to one of ~~the~~ two vertebrae adjacent to ~~the~~ an intervertebral disc to be replaced, the two half-shells enclosing a compression pad made of at least two materials of different hardness, ~~characterized in that~~ wherein one ~~(10)~~ of the two half-shells comprises, in its central zone, a shaft ~~(14)~~ which is oriented toward the ~~other~~ second half-shell ~~(7)~~, the second half-shell ~~(7)~~ comprising, in its central zone, a stud ~~(13)~~ whose cross section is smaller than that of the shaft and which is oriented toward the first half-shell and is engaged in the shaft of the latter, ~~the~~ a sum of the lengths of the shaft ~~(14)~~ and of the stud ~~(13)~~ being greater than ~~the~~ a distance between the two half-shells ~~(7, 10)~~, the compression pad being disposed between the two half-shells, including within ~~the~~ a volume situated between the shaft and the stud.
2. (Currently Amended) The prosthesis as claimed in claim 1, ~~characterized in that~~ wherein volumes disposed outside and inside of the shaft, respectively, are filled with compressible materials ~~(15, 16)~~ of different hardness.
3. (Currently Amended) The prosthesis as claimed in claim 2, ~~characterized in that~~ wherein the compressible material ~~(15)~~ situated outside the shaft is harder than the material ~~(16)~~ situated inside the shaft.
4. (Currently Amended) The prosthesis as claimed in claim 3, ~~characterized in that~~ wherein the compressible material ~~(15)~~ situated outside the shaft ~~(14)~~ has a Shore A hardness of between 60 and 100, ~~and preferably of 80~~, while the compressible material ~~(16)~~ situated inside the shaft ~~(14)~~ has a Shore A hardness of between 25 and 30, ~~and preferably of 28~~.

5. (Currently Amended) The prosthesis as claimed in ~~either of claims 3 and 4,~~  
~~characterized in that~~wherein the compressible material (15) situated outside the shaft is a synthetic material of the polycarbonate urethane type.
6. (Currently Amended) The prosthesis as claimed in ~~either of claims 3 and 4,~~  
~~characterized in that~~wherein the compressible material (16) situated inside the shaft is formed by a mixture of two-component silicone elastomer, crosslinking at ambient temperature, and of an encapsulating copolymer whose blowing agent is isobutane.
7. (Currently Amended) The prosthesis as claimed in ~~one of claims 1 through 6,~~  
~~characterized in that~~wherein the two half-shells (7, 10) are made of a titanium-based alloy.
8. (Currently Amended) The prosthesis as claimed in ~~one of claims 1 through 7,~~  
~~characterized in that~~wherein each half-shell (7, 10) comprises, on its outer face, points (17) intended to promote its fixation to a vertebra (2).
9. (Currently Amended) The prosthesis as claimed in ~~one of claims 1 through 8,~~  
~~characterized in that~~wherein each half-shell (7, 10) comprises, on its inner face, lugs (18) for attachment of the compression pad (15).
10. (Currently Amended) The prosthesis as claimed in ~~one of claims 1 through 9,~~  
~~characterized in that~~wherein the stud (13) projecting from a half-shell (7) is fixed by being screwed into a through-hole (12) in the latter.
11. (Currently Amended) The prosthesis as claimed in ~~one of claims 1 through 10,~~  
~~characterized in that~~wherein the stud (13) and the shaft (14) have a trapezoidal cross section.

12. (Currently Amended) The prosthesis as claimed in one of claims 1 through 11, characterized in that the stud (13) and the shaft (14) have, in transverse section, a non-circular cross section.
13. (Currently Amended) The prosthesis as claimed in ~~one of~~ claims 1 ~~through 12,~~  
~~characterized in that the~~ wherein outer surfaces of the half-shells (7, 10) comprise a coating intended to ensure primary osseous fixation, ~~for example a coating of hydroxyapatite or micro-porosities.~~
14. (Currently Amended) A method for producing the prosthesis as claimed in ~~one of~~ claims 3 ~~through 5~~ and 10 through 13, ~~characterized in that it involves~~ comprising placing the two half-shells in a mold, with the stud (13) withdrawn, injecting the material (15) of greater hardness into the volume outside the shaft (14), pouring the material (16) of lesser hardness into the volume inside the shaft (14) via ~~the~~ an opening (12) which is formed in the half-shell (7) and is intended to receive the stud (13), and then fixing the stud (13) in place by screwing.